REMARKS

Upon entry of this Amendment, claims 1-7, 11, 12, and 15 remain in the Application. This Amendment is responsive to the non-final Office Action of January 10, 2007. These communications have been received and carefully considered. In response thereto, this Amendment is submitted. It is respectfully submitted that, by this Amendment, all bases of rejection are traversed. Reconsideration is, therefore, respectfully requested.

Claims 1-7, 11, 12, and 15 currently stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ito in view of Mori and Baldwin. The Examiner contends that Ito teaches a linearly oscillating mask having a ratio of free cross-sections of the perforations being discretely present in the mask and the intermediate web surface that varies over the total surface, and the respective distance of the substrate surface, and rotating the substrate. The Examiner contends that Ito differs from the present invention in that Ito does not teach rotating the mask and the substrate together with respect to the plasma source by rotation of both the substrate and the mask about a common axis of rotation, or a magnetron sputtering source. The Examiner contends that Mori teaches rotating the mask and substrate together with respect to the plasma source by rotation of both the substrate and mask about a common axis of rotation. Finally, the Examiner contends that Baldwin teaches a Magnetron sputtering source. The Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to rotate the mask and replace the evaporation source with a magnetron sputtering source.

Claim 1 is directed to a device for formation of gradient layers on a substrate in a vacuum chamber and specifies that the ratio of free cross-sections of the perforations and the intermediate web surface per unit area is varied over at least one of the respective distances of the substrate surfaces, and the distance between the surface of the substrate and the mask differs in size over the total surface area. Further, the ratio of free cross-sections of the perforations and the intermediate web surfaces per area unit is varied over at least one distance and the inclination of the surface substrate and mask. Finally, the substrate and mask move together with respect to the plasma source.

The Ito reference concerns a method and device for forming thin films having desired thicknesses. The Ito reference states that the positions of the mask and the substrate are fluctuated relative to one another to achieve the desired thickness distribution. (See abstract constitution). This teaches away from having a mask and substrate that move together relative to the plasma source, with the desired thicknesses over the surface achieved by having distances that are different between the mask and substrate in specified areas. These distances do not change as the mask and substrate move relative to the plasma source, but Ito specifies that this distance fluctuates to achieve the desired film thickness. Please note that paragraph 63 of Applicant's specification does state that the mask and substrate move relative to one another, but only in an oscillating manor, without fluctuating distance between the two. This movement is to reduce rippling effects.

The Mori reference concerns manufacturing an organic electroluminescence display. Different uniform layers are formed on a substrate with a predetermined pattern using a mask. The mask of Mori is formed of a plate-shaped member with a rectangular contour. (Paragraph 0063 of the Mori specification and Fig. 6). This differs from the mask of the present invention, which provides for beam shaping abilities through the contoured surface of the mask, as described in claim 1 by the varied distances between the mask and intermediate web surfaces and the surface of the substrate. Further, the Mori reference teaches a self light emitting element in contrast to a gradient layer system. It may be true, as the Examiner contends, that Mori teaches rotating the mask and substrate together with respect to a vapor source by rotation of both the substrate and mask about a common axis of rotation; however, the Mori reference teaches away from such a rotation for a gradient layered system such as the present invention. Mori specifically states the by rotating the substrate and the mask, the hole injection layer is formed to a uniform thickness. (see Mori specification paragraph 0116). Any gradient layers in the Mori design would alter the ability of the light emitting element.

For these reasons, it is submitted that the Applicants' invention as set forth in claim 1 is not taught, anticipated, or rendered obvious by the Ito and Mori references.

Claims 2, 4-7, 11, 12 and 15 depend from claim 1 to contain all of the limitations found therein. By this dependency, it is submitted that the Applicants' invention as set forth in claims 2, 4-7, 11, 12 and 15 are not taught, anticipated, or rendered obvious by Ito in view of Mori.

Claim 3 is directed to a device for forming gradient layers on substrate surfaces in a vacuum chamber and specifies that the perforations of the mask each have free cross-sections and cross-sectional geometries and the free cross-sections of the perforations are formed in at least one of a circular, hexagonal, octagonal and elliptical form. The ratio of free cross-sections of the perforations and the intermediate web surface per unit area is varied over at least one of the respective distances of the substrate surfaces, and the distance between the surface of the substrate and the mask differs in size over the total surface area. The substrate and mask move together with respect to the plasma source. A drive means is operated to provide oscillatory movement of the mask in a plane with respect to the substrate.

As indicated previously, the Ito reference concerns a method and device for forming thin films having desired thicknesses. The Ito reference states that the positions of the mask and the substrate are fluctuated relative to one another to achieve the desired thickness distribution. (See abstract constitution). This teaches away from having a mask and substrate that move together relative to the plasma source, with the desired thicknesses over the surface achieved by having distances that are different between the mask and substrate in specified areas. These distances do not change as the mask and substrate move relative to the plasma source, but Ito specifies that this distance fluctuates to achieve the desired film thickness.

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and the surface of the substrate. Further, the Mori reference teaches a self light emitting element in contrast to a gradient layer system. It may be true, as the Examiner contends, that Mori teaches rotating the mask and substrate together with respect to a vapor source by rotation of both the substrate and mask about a common axis of rotation; however, the Mori reference teaches away from such a rotation for a gradient layered system such as the present invention. Mori specifically states the by rotating the substrate and the mask, the hole injection layer is formed to a uniform thickness. (See Mori specification paragraph 0116). Any gradient layers in the Mori design would alter the ability of the light emitting element.

For these reasons, it is submitted that the Applicants' invention as set forth in claim 3 is not taught, anticipated, or rendered obvious by the Ito and Mori references.

Addressing the Baldwin reference, the Examiner contends that Baldwin teaches a Magnetron sputtering source. A Magnetron sputtering source is not claimed by the Applicants until claim 12. This reference is inapplicable to claims 1-7, 11 and 15, as not one depends from claim 12. Claim 12 depends from claim 1 to contain all of the limitations found therein. By this dependency, it is submitted that the Applicants' invention as set forth in claim 12 is not taught, anticipated, or rendered obvious by Ito in view of Mori and Baldwin.

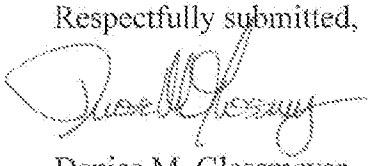
Further, Baldwin discloses a system for controlling deposition thickness using a mask with a shadow with respect to a target. The target is arranged inside of the shadow of the mask. The mask is positioned between an ion source and the target, not in front of a surface to be coated with gradient layers. The Baldwin reference teaches selectively blocking ion current from a target, not a substrate, using the shadow, not perforations on the mask. Only the substrate is rotated. (See paragraph 008 of the specification). Therefore, the Baldwin reference teaches away from rotating the substrate and the mask together.

Rejoinder of withdrawn claims 8 and 10 is sought by this action as it is believed that the claims depend from allowable claim 1.

In summary, discussion has been presented as to why the Applicants' invention as

set forth in claims 1-7 and 11, 12 and 15 is not taught, anticipated, or rendered obvious by the cited references. Applicant further requests rejoinder of claims 8 and 10 as they depend from amended claim 1. It is respectfully submitted that in view of this Amendment and the discussion, the Applicants' invention as set forth in claims 1-7, 11, 12 and 15 is in a condition suitable for allowance. Notice of allowance is, therefore, respectfully requested.

Respectfully submitted,



Denise M. Glassmeyer
Attorney for Applicant(s)
Registration No. 31831
(248) 649-3333
(248) 649-3338 (fax)
glassmeyer@ybpc.com

3001 West Big Beaver Road, Ste 624
Troy, Michigan 48084-3107

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